

Vaccine Storage and Handling Post-Test

1.
 - a. What is the appropriate temperature range for storing refrigerated vaccine? 2°C to 8°C
 - b. What is the appropriate temperature range for storing frozen vaccine? -15°C to -50°C
2. The MIN and MAX temps should be observed and recorded every morning. What is the MIN temperature on a MIN/MAX thermometer?
 - a. The number of minutes the unit has stayed at the same temperature.
 - b. The temperature of the coldest spot in the unit.
 - c. The coldest temperature in the unit since the thermometer's temperature was last cleared or reset.
 - d. The minimum acceptable temperature for storing vaccine.
3. What are the 5 required elements to document on the daily temperature log each morning when the practice first opens?
 1. Current temperature
 2. Minimum temperature
 3. Maximum temperature
 4. Time temperature taken
 5. Initials of staff taking temperatures
4. What are 4 characteristics of an acceptable temperature monitoring device?
 1. Digital display of temperature
 2. Detachable probe in buffered material
 3. Visual or audible alarm
 4. Accuracy within +/- .5°C
 5. Low battery indicator
 6. Continuous monitoring/ability to record and save information
 7. Ability to download saved information
 8. Current certificate of calibration
5. Where should the temperature probe be placed in the storage unit?
 - a. Inside the storage unit, on the bottom, next to the water bottles.
 - b. Inside the storage unit, in the central area next to the vaccine.
 - c. Inside the storage unit closest to the vents.
 - d. On the outside of the storage unit on the side.

6. Cold Chain Flow –maintaining proper temperatures along the way. Number in correct order the “chain” of responsibility.
- 4 Vaccine Storage & Handling at Provider Facility
 - 2 Vaccine Transport to Distributor and Provider
 - 3 Vaccine Arrival at Provider Facility
 - 1 Vaccine Manufacturer
 - 5 Vaccine Administration
7. Which of the following should be used to maintain stable temperatures in a refrigerator?
- a. Frozen Ice packs
 - b. Unopened water bottles
 - c. Any type of non-carbonated cans or bottles
 - d. Empty boxes of vaccine to take up any extra space
8. What type of storage unit is most recommended by the CDC for the storage of vaccines?
- Stand-alone single units or pharmaceutical/purpose built units
9. A “Dorm Style” unit may only be used for the temporary storage of vaccine.
- a. True
 - b. False
10. A vaccine shipment has arrived at your facility, what is the first action to take?
- Notify Primary or Assistant Vaccine Coordinator
- or if you are Vaccine Management- Immediately unpacked and examine shipment
11. While unpacking and checking the vaccine shipment the heat monitor indicates the vaccine may have been exposed to warm temperature, what action(s) should be taken?
- Label the vaccine and store in appropriate storage unit
- Call NH Immunization Program or vaccine distributor McKesson/Merck
12. If a refrigerated vaccine has been exposed to excessive heat or cold the vaccine
- a. Will change color when exposed to heat
 - b. Will form ice crystals when exposed to cold
 - c. Will not change in appearance
 - d. Will evaporate
13. Which of the following are **true** for proper vaccine placement of vaccine (select all that apply)
- a. Vaccines should be placed next to vents inside the refrigerator or freezer to ensure they are kept cold.
 - b. Space should be left between vaccines and the back/sides of the refrigerator.
 - c. Vaccines should be placed on a different shelf, away from food/drinks.
 - d. Vaccines should not be placed on the door of the storage unit.

- e. Vaccines cannot be placed in the vegetable crisper bins.
14. Vaccines may be taken out of their original packaging as long as they are placed in a labeled basket.
- a. True
 - b. False
15. Which vaccine, if not reconstituted, may be stored in either the refrigerator or the freezer?
- MMR
16. How often should a vaccine inventory be completed?
- Monthly (at a minimum)
17. What action should be taken if expired vaccine is found in the storage unit?
- Immediately remove and label expired vaccines
18. The diluent for reconstitution does not have an expiration date.
- a. True
 - b. False
19. Diluents are usually interchangeable between vaccines that need to be reconstituted
- a. True
 - b. False
20. A vaccine expires 03/2019. What date is it unsafe to administer this vaccine? 04/01/2019
21. What steps can be taken to avoid expiration of vaccine in the provider's office?
- Routinely perform inventory
Rotate stock properly
Order smaller quantities
22. Most multi-dose vials of vaccine may be used until the expiration date printed on the vial unless contaminated or compromised in some way.
- a. True
 - b. False
23. Exceptions to expiration dates on labels- What does "BUD" stand for?
- Beyond Use Date
24. If inadvertently administered, an expired or mishandled vaccine dose generally should not be counted as valid and should be repeated.
- a. True
 - b. False
25. Dry ice can be used to transport vaccines between two clinics.
- a. True
 - b. True as long as a calibrated thermometer is used to monitor temperature during the transport.
 - c. False

d. True as long as it is done quickly

26. List 5 key elements to a proper vaccine Storage/Handling and Management plan

1. Contact information of the current Primary Vaccine Coordinator and at least one Assistant (back-up) Coordinator
2. Proper vaccine storage and handling practices including temperature monitoring
3. Vaccine ordering procedures and accountability
4. Proper transport and receiving procedures- maintaining the cold chain
5. Proper handling and inventory control
6. Proper processes to avoid vaccine wastage
7. Detailed emergency plan
8. Staff training (and documentation) on vaccine management
9. Review/Revised documentation and signature of person responsible for its contents

27. Where should the Storage/Handling and Management Plan be kept?

Plans should be kept where easily accessible and available for all staff.

28. It's Friday morning and the weather is saying a possible Nor'easter over the weekend. What action(s) should be taken?

Prepare for vaccine transfer to back up storage facility as outlined in emergency plan

29. You arrive at the office to find your freezer has died overnight. What action(s) do you take?

Observe and document temperature of unit. Pack up vaccine for transport to emergency storage unit as outlined in plan. Contact the NH Immunization Program for further guidance.

30. Failure to store and handle vaccines properly

- a. May reduce potency, resulting in inadequate immune responses in patients and poor protection against disease
- b. May cause patients to lose confidence in vaccines and their providers when revaccination is necessary
- c. May result in significant financial loss if the vaccine(s) cannot be used.
- d. All of the above